



# SAFETY DATA SHEET

according to Regulation (EU) 2015/830

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Solitaire investment NA

Revision 0  
Revision date 2018-06-07

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product name	Solitaire investment NA
Product code	Solitaire investment 060718 R222

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Description	Foundry material.
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### 1.3. Details of the supplier of the safety data sheet

Company	Ransom & Randolph
Address	3535 Briarfield Boulevard, PO Box 1570 Maumee, Ohio 43537 USA
Web	www.ransom-randolph.com
Telephone	+1 (419) 865-9497
Fax	+1 (419) 865-9997
Email	RR.SDS@dentsply.com
Email address of the competent person	RR.SDS@dentsply.com

### 1.4. Emergency telephone number


Emergency telephone number	USA +1 419 865 9497
Company	Ransom & Randolph Co. 07:30 to 16:30 (Eastern Std. / GMT minus 5)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

2.1.2. Classification - EC 1272/2008	Carc. 1A: H350; Repr. 1B: H360FD; STOT RE 1: H372;
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### 2.2. Label elements

Hazard pictograms	This substance / mixture has been classified in accordance with the US Federal OSHA Hazard Communication Standard 29CFR 1910.1200. Substance concentration band-ranges are presented, and minor ingredient composition maybe withheld, to protect trade secrets. 
Signal Word	Danger
Hazard Statement	Carc. 1A: H350 - May cause cancer (lungs), Inhalation.

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## 2.2. Label elements

<b>Precautionary Statement: Prevention</b>	Repr. 1B: H360FD - May damage fertility. May damage the unborn child. STOT RE 1: H372 - Causes damage to organs (lungs) through prolonged or repeated exposure inhalation.
	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash (hands) thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P285 - In case of inadequate ventilation wear respiratory protection.
<b>Precautionary Statement: Response</b>	P308+P313 - IF exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell.
<b>Precautionary Statement: Storage</b>	P405 - Store locked up.
<b>Precautionary Statement: Disposal</b>	P501 - Dispose of contents/container to local and national regulations

## 2.3. Other hazards

<b>Other hazards</b>	Product contains crystalline silica.
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## Further information

	Not applicable. PBT and vPvB assessment.
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## SECTION 3: Composition/information on ingredients

## 3.2. Mixtures

## EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
silica (cristobalite conc. $\geq$ 1.0 %)		14464-46-1	238-455-4		30 - 40%	Carc. 1A: H350; STOT RE 1: H372;
quartz (conc. $\geq$ 1.0%)		14808-60-7	238-878-4		30 - 40%	Carc. 1A: H350; STOT RE 1: H372;
Calcium sulfate (Plaster of Paris)		26499-65-0			20 - 30%	
boric acid.	005-007-00-2	10043-35-3	233-139-2		0.5 - 1%	Repr. 1B: H360FD;

## Further information

	Full text for all Risk Phrases mentioned in this section are displayed in Section 16.
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## SECTION 4: First aid measures

## 4.1. Description of first aid measures

<b>Inhalation</b>	Move the exposed person to fresh air.
<b>Eye contact</b>	Rinse immediately with plenty of water for 15 minutes holding the eyelids open.
<b>Skin contact</b>	Wash with soap and water.
<b>Ingestion</b>	Drink 1 to 2 glasses of water. DO NOT INDUCE VOMITING.

## 4.2. Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	May cause irritation to respiratory system.
<b>Eye contact</b>	May cause irritation to eyes.
<b>Skin contact</b>	May cause irritation to skin.

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Ingestion	May cause irritation to mucous membranes.
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**4.3. Indication of any immediate medical attention and special treatment needed**

Inhalation	Seek medical attention if irritation or symptoms persist.
Eye contact	Seek medical attention if irritation or symptoms persist.
Skin contact	Seek medical attention if irritation or symptoms persist.
Ingestion	Seek medical attention if irritation or symptoms persist.

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

	Use extinguishing media appropriate to the surrounding fire conditions.
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**5.2. Special hazards arising from the substance or mixture**

	Burning produces irritating, toxic and obnoxious fumes.
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**5.3. Advice for firefighters**

	Self-contained breathing apparatus. Wear suitable protective clothing.
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**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

	Avoid raising dust. Wear suitable respiratory equipment when necessary.
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**6.2. Environmental precautions**

	No environmental requirements.
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**6.3. Methods and material for containment and cleaning up**

	Avoid raising dust. Clean the area using a vacuum cleaner. Transfer to suitable, labelled containers for disposal.
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**6.4. Reference to other sections**

	See section [2, 8 & 13] for further information.
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**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

	Avoid raising dust. Ensure adequate ventilation of the working area. In case of insufficient ventilation, wear suitable respiratory equipment.
	Do not eat, drink or smoke in areas where this product is used or stored. Wash hands after handling the product.

**7.2. Conditions for safe storage, including any incompatibilities**

	Keep containers tightly closed.
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**7.3. Specific end use(s)**

	Foundry material.
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**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

	exposure limits - Crystalline Silica, Cristobalite - 0.025 mg/m3 TWA ACGIH TLV (respirable fraction); 50 ug/m3 8-hr TWA PEL (respirable fraction).
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## 8.1. Control parameters

	<p>exposure limits - Crystalline Silica, quartz - 0.025 mg/m<sup>3</sup> TWA ACGIH TLV (respirable fraction); 50 ug/m<sup>3</sup> 8 hr -TWA PEL (respirable fraction).</p> <p>exposure limits boric acid powder - 2 mg/m<sup>3</sup> TWA, 6 mg/m<sup>3</sup> STEL (inhalable) ACGIH TLV 0.5 mg/m<sup>3</sup> TWA, 1 mg/m<sup>3</sup> STEL German, AGS 2 mg/m<sup>3</sup> TWA, 6 mg/m<sup>3</sup> STEL Belgium/Spain.</p>
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## 8.1.1. Exposure Limit Values

Calcium sulfate (Plaster of Paris)	<p>WEL 8-hr limit ppm: -</p> <p>WEL 15 min limit ppm: -</p> <p>WEL 8-hr limit mg/m<sup>3</sup> total 10</p> <p>inhalable dust:</p> <p>WEL 8-hr limit mg/m<sup>3</sup> total 4</p> <p>respirable dust:</p>	<p>WEL 8-hr limit mg/m<sup>3</sup>: -</p> <p>WEL 15 min limit mg/m<sup>3</sup>: -</p> <p>WEL 15 min limit mg/m<sup>3</sup> total -</p> <p>inhalable dust:</p> <p>WEL 15 min limit mg/m<sup>3</sup> total -</p> <p>respirable dust:</p>
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## 8.2. Exposure controls

	
8.2.1. Appropriate engineering controls	Ensure adequate ventilation of the working area.
8.2.2. Individual protection measures	Protective clothing.
Eye / face protection	In case of splashing, wear:.. Approved safety goggles. safety glasses with side-shields.
Skin protection - Handprotection	Wear suitable gloves.
Respiratory protection	Suitable respiratory equipment.
8.2.3. Environmental exposure controls	Not normally required.
Occupational exposure controls	Appropriate local exhaust ventilation is required.

## SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

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## 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Powder
<b>Colour</b>	Off white
<b>Odour</b>	Slight
<b>pH</b>	6 - 8
<b>Melting point</b>	Not applicable.
<b>Freezing Point</b>	Not applicable.
<b>Initial boiling point</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	2.5 (H <sub>2</sub> O = 1 @ 20 °C)
<b>Fat Solubility</b>	Not applicable.
<b>Partition coefficient</b>	Not applicable.
<b>Autoignition temperature</b>	Not applicable.
<b>Viscosity</b>	No data available
<b>Oxidising properties</b>	Not applicable.
<b>Solubility</b>	Slightly soluble in water

## 9.2. Other information

<b>Conductivity</b>	No data available
<b>Surface tension</b>	No data available
<b>Gas group</b>	No data available
<b>Benzene Content</b>	Not applicable.
<b>Lead content</b>	Not applicable.
<b>VOC (Volatile organic compounds)</b>	Not applicable.

## SECTION 10: Stability and reactivity

## 10.1. Reactivity

	Not applicable.
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## 10.2. Chemical stability

	Stable under normal conditions.
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## 10.3. Possibility of hazardous reactions

	No Significant Hazard.
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## 10.4. Conditions to avoid

	Moisture.
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## 10.5. Incompatible materials

	No Significant Hazard.
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## 10.6. Hazardous decomposition products

	Hazardous Decomposition Products (silica): Crystalline silica will dissolve in hydrofluoric acid and produce silicone tetrafluoride. Reaction with water or acids generates heat.
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## SECTION 11: Toxicological information

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## 11.1. Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Prolonged or repeated exposure may cause irritation to skin and mucous membranes.
Serious eye damage/irritation	No irritation expected.
Respiratory or skin sensitisation	No sensitization effects reported.
Germ cell mutagenicity	No mutagenic effects reported.
Carcinogenicity	Known Human Carcinogens (Category 1).
Reproductive toxicity	Possible risk of harm to the unborn child. Possible risk of impaired fertility.
STOT-single exposure	No known adverse health effects.
STOT-repeated exposure	Chronic effects Prolonged inhalation of respirable crystalline silica In 1997, the International Agency for Research on Cancer (IARC) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France). In June 2003, the European Commission's Scientific Committee for Occupational Exposure Limits (SCOEL) concluded:  "that the main effect in humans of the inhalation of respirable crystalline silica is silicosis. There is sufficient information to conclude that the relative lung cancer risk is increased in persons with silicosis (and apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk. Since a clear threshold for silicosis development cannot be identified, any reduction of exposure will reduce the risk of silicosis."  (SCOEL SUM Doc 94-final on respirable crystalline silica, June 2003) There is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. Worker protection against silicosis should be assured by respecting the existing regulatory occupational exposure limits and implementing additional risk management measures where required (see Section 16).
Aspiration hazard	No Significant Hazard.
Repeated or prolonged exposure	Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system.

## 11.1.4. Toxicological Information

Solitaire investment	NA	Oral Mouse LD50: >5000 mg/kg
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## SECTION 12: Ecological information

## 12.1. Toxicity

Solitaire investment	NA	Fish LC50/96h: 10000.000 mg/l
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## 12.2. Persistence and degradability

	No data is available on this product.
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## 12.3. Bioaccumulative potential

	Does not bioaccumulate.
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## Partition coefficient

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## Partition coefficient

	Solitaire investment	NA Not applicable.
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## 12.4. Mobility in soil

	Not determined.
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## 12.5. Results of PBT and vPvB assessment

	Not determined.
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## 12.6. Other adverse effects

	Not applicable.
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**SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

	Dispose of in compliance with all. local and national regulations.
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## Disposal methods

	Contact a licensed waste disposal company.
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## Disposal of packaging

	Empty containers can be sent for disposal or recycling.
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**SECTION 14: Transport information**

## 14.1. UN number

	The product is not classified as dangerous for carriage.
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## 14.2. UN proper shipping name

	The product is not classified as dangerous for carriage.
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## 14.3. Transport hazard class(es)

	The product is not classified as dangerous for carriage.
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## 14.4. Packing group

	The product is not classified as dangerous for carriage.
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## 14.5. Environmental hazards

	The product is not classified as dangerous for carriage.
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## 14.6. Special precautions for user

	The product is not classified as dangerous for carriage.
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## 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

	The product is not classified as dangerous for carriage.
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## Further information

	The product is not classified as dangerous for carriage.
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**SECTION 15: Regulatory information**

## 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Regulations</b>	U.S. FEDERAL REGULATIONS:  CERCLA 103 Reportable Quantity: R&R Solitaire investment is not subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills
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## Solitaire investment NA

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required under federal, state and local regulations.

**SARA TITLE III:**

Hazard Category For Section 311/312: Chronic health quartz.

Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

**U.S. STATE REGULATIONS**

California Proposition 65: This product contains the following substances known to the State of California to cause cancer: Crystalline Silica as Quartz and Cristobalite (< 85 %);

**INTERNATIONAL REGULATIONS:**

Canadian Environmental Protection Act: All of the components in this product are listed on the Domestic Substances List (DSL).

Canadian WHMIS Classification: Class D2A (Chronic toxic effects), D2A (Carcinogenicity).

**15.2. Chemical safety assessment**

No data is available on this product.

**SECTION 16: Other information****Other information****Text of Hazard Statements in Section 3**

Carc. 1A: H350 - May cause cancer .  
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure .  
Repr. 1B: H360FD - May damage fertility. May damage the unborn child.

**Further information****Training**

Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations.

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.